

UNIVERSITY OF QUEENSLAND

Prentice Computer Centre

NEWSLETTER

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1 CONTENTS OF THIS ISSUE

2. PRENTICE COMPUTER CENTRE FUTURE DEVELOPMENTS
3. INTRODUCTORY FORTRAN COURSE
4. HEXADECIMAL CALCULATOR
5. NUMERICAL CLASSIFICATION SUITE

2 PRENTICE COMPUTER CENTRE FUTURE DEVELOPMENTS

Specifications were issued on 4 January requesting tenders by 28 February for the supply of central computing equipment to enhance and allow the eventual replacement of our existing central computing facilities. Currently, an amount of \$1.2 million has been allocated by the University of Queensland and Griffith University for this purpose. It will be a phased development and additional funds will be required in subsequent years to allow the replacement of the PDP-10 by 1980. Tenders will be assessed by a special sub-committee of the Computing Policy Committee. Any staff members of the University of Queensland or Griffith University who have interest in reading a copy of the specification are invited to contact Alan Coulter, Director, Prentice Computer Centre.

As well as action to enhance Central Computing facilities, orders were placed (from various funds sources) at the end of 1976 to enable the upgrade of remote batch stations in the Commerce Precinct, Medical School and Griffith University from PDP11/10 computers to PDP11/34 computers. With appropriate software, it is planned to support the distribution of computing to allow jobs to be run on mini-computers where there is appropriate cost/benefit. Looking ahead further, the Computing Policy Committee is currently considering the allocation of funds for other than central requirements. As well as the funding of some computers for dedicated tasks within departments, it is hoped that the shared use of mini-computers on a precinct basis can be extended.

Another action which has been taken to improve turnaround on miditran student jobs and lower costs is the introduction of the Monash University Monecs system. Initially, miditran cards will be run at specified times on the existing PDP11/10 batch stations. It is planned later in the semester to use a PDP11/10 system as a cafeteria service allowing students to load their own cards and extract their own output. The charging for this service will be the addition of a slight margin to the cost of miditran cards to cover the costs of paper and maintenance of equipment.

Some building alterations have been completed now which will enable us to maintain and improve our services. To make space available within our existing computer room, we will transfer our receipt and dispatch area and enquiries to the ground floor of the Hawken Building in an area behind the existing client room. Our plans are to have all of our input/output devices located in this area. A room will be provided also for client consulting as well as a room for public graphics facilities.

One pleasing result of these accommodation changes was that it became possible to air-condition the client room.

We have ordered a further disk drive (60 million bytes) for the PDP-10 to cope with the growth of the public file area. There is little further that can be done, however, to expand the capacity of this equipment. Should there be sufficient demand, we plan to provide a service at half charge rates over one day in each weekend. Despite significant increases in staff costs and costs of supplies, it is not proposed to increase charge rates in 1977.

The aim of the Prentice Computer Centre is to offer computing services which provide apt support to the teaching, research and administrative work of the Universities at the lowest possible cost. Necessarily, we are constrained by available hardware and people resources. I would again invite any of our users to contact me with any suggestions they may have which would improve our service.

Alan W. Coulter
Director

3 INTRODUCTORY FORTRAN COURSE

The Centre will be offering an introductory FORTRAN course from Wednesday 9 February to Tuesday 15 February inclusive.

The course will be held in Room 214, Hawken Building and will begin at 9 a.m. each day and end at 3.30 p.m. The lunch break will be from noon until 1.30 p.m. The format of the course will be morning lectures with afternoon practical/tutorial classes.

To help planning, it is requested that those wishing to attend this course, complete a 'Nomination for Computer Course' form by 2 February 1977. This form may be obtained from the Enquiry Window in the foyer of the Centre.

No charge is made for the course for post-graduate students or members of staff. A fee of \$100 is payable by external users for each person attending the course.

4 HEXADECIMAL CALCULATOR

HEXSUM is a program to calculate the value of hexadecimal expressions. In addition, octal values may be specified by preceding the number with a '#' and decimal values by preceding the number with a '.' and following it by a '.'.

The expression should be terminated by a <cr>, after which HEXSUM will evaluate the expression, type an '=' and then its value.

HEXSUM prompts the user by typing a '*'.

```
.R MXI:HEXSUM
> #10.*(1+FF) <cr>
= A00
> FF/F
= 11
```

5 NUMERICAL CLASSIFICATION SUITE

A suite of programs which performs analyses on two and three dimensional data to perform numerical classification tasks, has been made available on the STA: library.

Two separate suites are available presently named CLUSTR and TAXAN.

CLUSTR is suited to ecological and some taxonomic analyses and handles continuous, binary and ordered multistate data. It allows great flexibility in the method by which these data can be analysed.

TAXAN is suited to taxonomic studies and handles each of the above categories of data and also disordered multistate data. It does not, however, offer as large a degree of flexibility in analysis as does CLUSTER.

Documentation is currently being written and preliminary documentation is available from the Centre. All enquiries should be directed to Mr. C. McGovern or Mrs. B. Delly.

Reproduced below is the abstract from the CLUSTER users guide:

" This manual describes a suite of programs which are capable of dealing effectively with sets of data which are to be numerically classified. The data represents several entities which are described by relevant attributes.

The method by which the classification is performed may be controlled in a most flexible manner, by several easily set user options. These options control the following steps in the classification process:

- (i) A transformation of the raw data may optionally be carried out in one of several ways.
- (ii) A choice of dissimilarity indices may be made.
- (iii) A choice of sorting and clustering strategies is available.
- (iv) Output optionally available includes printouts of trellis diagrams, two way tables and summaries of the raw data, and plots of derived dendrograms from the sorting strategies.
- (v) Optional ordination derived from the methods of Principal Component Analysis and/or Principal Coordinate Analysis, may be selected.

The program as outlined performs both normal and inverse analyses of two-dimensional raw data in the form of entities versus attributes. Such data is commonly generated in psychological, taxonomic and ecological studies and also in studies in other social sciences.

CLUSTER can also be used to classify three dimensional data (entity-1 x entity-2 x attribute) as is often required in ecological studies, for example in (sites x times x species) analysis. This extension in no way affects the two-dimensional study of data and is entirely transparent to users of the latter facility. "

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